drop of more than 150 p.s.i. per minute for a 2-minute period.

(3) The individual branch lines to the various spaces protected shall be subjected to a test similar to that described in the preceding paragraph with the exception that the pressure used shall be 600 p.s.i. in lieu of 1,000 p.s.i. For the purpose of this test, the distribution piping shall be capped within the space protected at the first joint ahead of the nozzles.

(4) In lieu of the tests prescribed in the preceding paragraphs in this section, small independent systems protecting spaces such as emergency generator rooms, lamp lockers, etc., may be tested by blowing out the piping with air at a pressure of at least 100 p.s.i.

§ 76.15–20 Carbon dioxide storage.

(a) Except as provided in paragraph (b) of this section, the cylinders shall be located outside the spaces protected, and shall not be located in any space that might be cut off or made inaccessible in the event of a fire in any of the spaces protected.

(b) Systems of the type indicated in § 76.15–5(d), consisting of not more than 300 pounds of carbon dioxide, may have the cylinders located within the space protected. If the cylinder stowage is within the space protected, the system shall be arranged in an approved manner to be automatically operated by a heat actuator within the space in addition to the regular remote and local controls.

(c) The space containing the cylinders shall be properly ventilated and designed to preclude an anticipated ambient temperature in excess of 130 degrees F.

(d) Cylinders shall be securely fastened and supported, and, where necessary, protected against injury.

(e) Cylinders shall be so mounted as to be readily accessible and capable of easy removal for recharging and inspection. Provisions shall be available for weighing the cylinders.

(f) Where subject to moisture, cylinders shall be so installed as to provide a space of at least 2 inches between the flooring and the bottom of the cylinders.

(g) Cylinders shall be mounted in an upright position or inclined not more than 30 degrees from the vertical. However, cylinders which are fitted with flexible or bent syphon tubes may be inclined not more than 80 degrees from the vertical.

(h) Where check valves are not fitted on each independent cylinder discharge, plugs or caps shall be provided for closing outlets when cylinders are removed for inspection or refilling.

(i) All cylinders used for storing carbon dioxide must be fabricated, tested, and marked in accordance with §§ 147.60 and 147.65 of this chapter.

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGD 84–044, 53 FR 7748, Mar. 10, 1988; USCG–1999–6216, 64 FR 53226, Oct. 1, 1999]

§ 76.15–25 Discharge outlets.

(a) Discharge outlets shall be of an approved type.

(b) [Reserved]

§ 76.15–30 Alarms.

(a) Spaces which are protected by a carbon dioxide extinguishing system and are normally accessible to persons on board while the vessel is being navigated, other than paint and lamp lockers and similar small spaces, shall be fitted with an approved audible alarm in such spaces which will be automatically sounded when the carbon dioxide is admitted to the space. The alarm shall be conspicuously and centrally located and shall be marked as required by § 78.47–9 of this subchapter. For systems installed on or after July 1, 1957, alarms will be mandatory only for systems required to be fitted with a delayed discharge. Such alarms shall be so arranged as to sound during the 20 second delay period prior to the discharge of carbon dioxide into the space, and the alarm shall depend on no source of power other than the carbon dioxide.

(b) [Reserved]

§ 76.15–35 Enclosure openings.

(a) Where mechanical ventilation is provided for spaces other than cargo and similar spaces which are protected by a carbon dioxide extinguishing system, provisions shall be made so that

the ventilation system is automatically shut down with the operation of the system to that space.

(b) Where natural ventilation is provided for spaces protected by a carbon dioxide extinguishing system, provisions shall be made for easily and effectively closing off the ventilation.

(c) Means shall be provided for closing all openings to the space protected from outside such space. In this respect, relatively tight doors, shutters, or dampers shall be provided for openings in the lower portion of the space. The construction shall be such that openings in the upper portion of the space can be closed off either by permanently installed means or by the use of canvas or other material which is normally carried by the vessel.

§ 76.15–40 Pressure relief.

(a) Where necessary, relatively tight compartments such as refrigeration spaces, paint lockers, etc., shall be provided with suitable means for relieving excessive pressure accumulating within the compartment when the carbon dioxide is injected.

(b) [Reserved]

[CGFR 65–50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 66–33, 31 FR 15283, Dec. 6, 1966]

§ 76.15–50 Lockout valves.

(a) A lockout valve must be provided on any carbon dioxide extinguishing system protecting a space over 6,000 cubic feet in volume and installed or altered after July 9, 2013. ''Altered'' means modified or refurbished beyond the maintenance required by the manufacturer's design, installation, operation and maintenance manual.

(b) The lockout valve must be a manually operated valve located in the discharge manifold prior to the stop valve or selector valves. When in the closed position, the lockout valve must provide complete isolation of the system from the protected space or spaces, making it impossible for carbon dioxide to discharge in the event of equipment failure during maintenance.

(c) The lockout valve design or locking mechanism must make it obvious whether the valve is open or closed.

(d) A valve is considered a lockout valve if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it.

(e) The master or person-in-charge must ensure that the valve is locked open at all times, except while maintenance is being performed on the extinguishing system, when the valve must be locked in the closed position.

(f) Lockout valves added to existing systems must be approved by the Commandant as part of the installed system.

[USCG–2006–24797, 77 FR 33876, Jun. 7, 2012]

§ 76.15–60 Odorizing units.

Each carbon dioxide extinguishing system installed or altered after July 9, 2013, must have an approved odorizing unit to produce the scent of wintergreen, the detection of which will serve as an indication that carbon dioxide gas is present in a protected area and any other area into which the carbon dioxide may migrate. ''Altered'' means modified or refurbished beyond the maintenance required by the manufacturer's design, installation, operation and maintenance manual.

[USCG–2006–24797, 77 FR 33877, Jun. 7, 2012]

§ 76.15–90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.15–5 through 76.15–40 insofar as is reasonable and practicable, with the exception of § 76.15–5(d) (1) through (3) covering spaces other than cargo spaces, which systems may be installed in accordance with paragraphs (a) (3) through (6) of this section. However, the foregoing exception shall not be permitted for vessels on an international voyage.